

What is claimed is:

1. A method of performing threat assessment within a vehicle comprising:
 - detecting at least one object;
 - determining kinematics of the vehicle;
 - 5 determining kinematics of said at least one object;
 - determining a brake threat number in response to said vehicle kinematics and said kinematics of said at least one object; and
 - 10 determining a threat of said at least one object in response to said brake threat number.
2. A method as in claim 1 further comprising:
 - determining a steering threat number in
 - 15 response to said vehicle kinematics and said kinematics of said at least one object; and
 - determining a threat of said at least one object in response to said steering threat number.
3. A method as in claim 1 wherein
 - 20 determining kinematics of said vehicle and
 - determining kinematics of said at least one object
 - comprise:
 - determining a path of the vehicle; and
 - determining a path of said at least one
 - 25 object.
4. A method as in claim 1 wherein
 - determining kinematics of said vehicle and
 - determining kinematics of said at least one object
 - comprise determining relative position, velocity, and

acceleration of said at least one object relative to the vehicle.

5. A method as in claim 1 wherein determining kinematics of said vehicle and
5 determining kinematics of said at least one object comprise determining yaw rate of the vehicle.

6. A method as in claim 1 wherein determining said brake threat number comprises:

determining a deceleration at zero range
10 value; and

determining a maximum vehicle deceleration value.

7. A method as in claim 6 wherein determining said brake threat number further
15 comprises dividing said deceleration at zero range value by said maximum vehicle deceleration value.

8. A method as in claim 1 wherein determining said brake threat number comprises determining an average braking value.

20 9. A method of performing threat assessment within a vehicle comprising:

detecting at least one object;

determining kinematics of the vehicle;

determining kinematics of said at least one
25 object;

determining a steering threat number in response to said vehicle kinematics and said kinematics of said at least one object; and

determining a threat of said at least one
30 object in response to said steering threat number.

10. A method as in claim 9 further comprising:

determining a brake threat number in response to said vehicle kinematics and said
5 kinematics of said at least one object; and

determining a threat of said at least one object in response to said brake threat number.

11. A method as in claim 9 wherein determining said steering threat number comprises:

10 determining a lateral acceleration at zero range value; and

determining a maximum lateral acceleration value.

12. A method as in claim 11 wherein
15 determining said steering threat number further comprises dividing said lateral acceleration at zero range value by said maximum lateral acceleration value.

13. A method as in claim 9 wherein
20 determining said steering threat number comprises determining an average lateral acceleration value.

14. A threat assessment system for a vehicle comprising:

at least one object detection sensor
25 generating at least one object detection signal; and

a controller coupled to said at least one object detection sensor and determining a braking threat number and a steering threat number in response to said at least one object detection
30 signal, said controller determining a threat of said at least one object in response to said braking threat number and said steering threat number.

15. A system as in claim 14 wherein said controller performs at least one countermeasure in response to said braking threat number.

5 16. A system as in claim 14 wherein said controller reduces traveling speed of the vehicle when said brake threat number is above a predetermined value.

10 17. A system as in claim 14 wherein said controller reduces traveling speed of the vehicle when said steering threat number is above a predetermined value.

15 18. A system as in claim 14 wherein said controller adjusts direction of travel of the vehicle when said steering threat number is above a predetermined value.

19. A system as in claim 14 wherein said controller adjusts direction of travel of the vehicle when a brake threat number is above a predetermined value.

20 20. A system as in claim 14 wherein said controller, in determining a braking threat number and a steering threat number, determines a deceleration at a zero range profile, a maximum vehicle deceleration profile, a lateral acceleration at zero range profile, and a maximum lateral
25 acceleration profile.